

NCL-19-768



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200
Fax 613 632-5246

RB6796941
Job Sheet 196882



Part No: RB6796941

Job Qty: 2 pcs

Part Name: Seals Replacement, Accessories Gear Box



Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 6/24/19

Job Tracking No:

Due Date: 7/29/19

Created By: Kimberley Guerin

Type: Stock

Description:

Note: DWG RB6796941 Rev. 11 IPP Rev. A 18.07.31 new issue DP Verify DD

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup Hrs	Run Hrs	Workcenter / Supplier	Lead Time	
115	Purchasing	2 pcs	7/29/19	7/29/19	0.00	0.00	Purchasing - 1		JUL 31 2019
							Purchasing - 2		
							Purchasing - 3		
118	Packaging 2-1 - Receive - B4B	2 pcs	7/29/19	7/29/19	0.00	0.00	Packaging 2 - 1 - B4B		JUL 31 2019
							Packaging 2 - 2 - B4B		
							Packaging 2 - 3 - B4B		
							Packaging 2 - 5 - B4B		
							Packaging 2 - 4 - B4B		
							Packaging 2 - 6 - B4B		
							Packaging 2 - 7 - B4B		
							Packaging 2 - 8 - B4B		
							Packaging 2 - 9 - B4B		
							Packaging 2 - 10 - B4B		
							Packaging 2 - 11 - B4B		
							Packaging 2 - 12 - B4B		
							Packaging 2 - 13 - B4B		
							Packaging 2 - 14 - B4B		
							Packaging 2 - 15 - B4B		
							Packaging 2 - 16 - B4B		
							Packaging 2 - 17 - B4B		
							Packaging 2 - 18 - B4B		
							Packaging 2 - 19 - B4B		
							Packaging 2 - 20 - B4B		
							Packaging 2 - 21 - B4B		
							Packaging 2 - 22 - B4B		
							Packaging 2 - 23 - B4B		
							Packaging 2 - 24 - B4B		
							Packaging 2 - 25 - B4B		
							Packaging 2 - 26 - B4B		
							Packaging 2 - 27 - B4B		
							Packaging 2 - 28 - B4B		



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
CANADA
TEL: 1 613 632-5200
Email: sales@dartaero.com
www.dartaerospace.com

Container No: S201954



Part: RB6796941

Job No: 196882

Serial No/Batch: S201954

Revision: 11

Inspector:

Exp Date:

Instructions:

Date: 07/31/19

Plex 6/24/19 9:45 AM Dart.Guerin.Kimberley

Re-work
SAD
P/O 115

-17-18

Black Oxide

11/10/11
11/19/11
11/19/12
2019-10-16

					Packaging 2 - 29 - B4B	
					Packaging 2 - 30 - B4B	
					Packaging 2 - 31 - B4B	
					Packaging 2 - 32 - B4B	
					Packaging 2 - 33 - B4B	
					Packaging 2 - 34 - B4B	
					Packaging 2 - 35 - B4B	
					Packaging 2 - 36 - B4B	
119	Conventional Mill - 1	2 pcs	7/29/19	0.00 0.00	Conventional Mill - 1	
120	QC 2	2 pcs	7/29/19	0.00 0.00	QC 2 - 1	
121	QC 8	2 pcs	7/29/19	0.00 0.00	QC 8 - 1 (A)	
122	Outsource - 13 - Zinc Plating	2 pcs	7/29/19		GRO002-VC	
123	Packaging 2-1 - Receive - B4B	2 pcs	7/29/19	0.00 0.00	Packaging 2 - 1 - B4B	
125	QC 6	2 pcs	7/29/19	0.00 0.00	QC 6 - 9	
					QC 6 - 68	
					QC 6 - 61	
					QC 6 - 40	
130	Packaging 3-1 - Stock - B4B	2 pcs	7/29/19	0.00 0.00	Packaging 3 - 1 - B4B	
					Packaging 3 - 2 - B4B	
					Packaging 3 - 3 - B4B	
					Packaging 3 - 4 - B4B	
					Packaging 3 - 5 - B4B	
					Packaging 3 - 6 - B4B	
					Packaging 3 - 7 - B4B	
					Packaging 3 - 8 - B4B	
					Packaging 3 - 9 - B4B	
					Packaging 3 - 10 - B4B	
					Packaging 3 - 11 - B4B	
					Packaging 3 - 12 - B4B	
					Packaging 3 - 13 - B4B	
					Packaging 3 - 14 - B4B	
					Packaging 3 - 15 - B4B	
					Packaging 3 - 16 - B4B	
					Packaging 3 - 17 - B4B	
					Packaging 3 - 18 - B4B	
					Packaging 3 - 19 - B4B	
					Packaging 3 - 20 - B4B	
					Packaging 3 - 21 - B4B	
					Packaging 3 - 22 - B4B	
					Packaging 3 - 23 - B4B	
					Packaging 3 - 24 - B4B	
					Packaging 3 - 25 - B4B	
					Packaging 3 - 26 - B4B	
					Packaging 3 - 27 - B4B	
					Packaging 3 - 28 - B4B	
					Packaging 3 - 29 - B4B	
					Packaging 3 - 30 - B4B	
					Packaging 3 - 31 - B4B	
					Packaging 3 - 32 - B4B	
					Packaging 3 - 33 - B4B	
					Packaging 3 - 34 - B4B	
					Packaging 3 - 35 - B4B	
					Packaging 3 - 36 - B4B	
140	QC 21 - FG	2 pcs	7/29/19	0.00 0.00	QC 21 - FG - 21	
					QC 21 - FG - 70	
					QC 21 - SA - 53	

Part Op 115 - -Issue P/O to ARROW TECH MACHINE WORKS ; P/O _____ -Manufacture RB6796941as per DWG. -
 Descriptions: Certificate of Conformity is required
 119 - REWORK -17/-18

122 - Outside Processing - Zinc Plating -Issue P/O to GROUPE ALTECH: P/O 44775 -Zinc plate, ASTM B633
 TYPE 2 SC2 -Color; yellow -Material type; 1144 -Certificate of Conformity is required
130 - Identify as per dwg & Stock Location: _____ -
140 - QC21- Final Inspection - Work Order Release

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
RB6796941P	Seals Replacement, Accessories Gear Box	2 Ea (1 ea)	115-Purchasing	

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
115-Purchasing	RB6796941P	2	0	0

Part Specifications

Specifications could not be found.

Plex 8/22/19 2:37 PM dart.lacelle.linda

Job Allocations				
Operation	Component Part	Required	Inventory	Allocated
115-Purchasing	RB6796941P	2	0	0
Part Specifications				
Specifications could not be found.				

Plex 6/24/19 9:45 AM Dart.Guerin.Kimberley



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER

POHB043785



Supplier: ARR002-VU
Arrow Tech Machine Works
29751 E. Enid Road,
Unit C
Eugene, OR 97402 USA
Phone: 541-780-6938
Fax: 458-215-4938

Attention: , Ana
(541) 780-6938

Ship To:

PO No: POHB043785

PO Date: 6/19/19

Due Date: 7/29/19

Purchase Order

Revision:

Revision Date:

Ship-To Contact: Phone:

Pymt Terms: Net 30

Freight Terms:

Special Comments:

Items

Line Item	Job	Part	Supplier Part No	Item No	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (USD)	Extended Price
1	196847	RB6872201P			Prop Flange Puller	Firmed	-	7/29/19	1 Ea	0 Ea	1 Ea	\$2,048.20/Ea	\$2,048.20
2	196848	RB6891198P			Wrench	Firmed	-	7/29/19	1 Ea	0 Ea	1 Ea	\$1,441.15/Ea	\$1,441.15
3	196849	RB6796966P	RB6796966P		RET. RING, FUEL CTR. DR. PLIER	Firmed	-	7/29/19	2 Ea	0 Ea	2 Ea	\$827.00/Ea	\$1,654.00
4	196851	RB6795614P			Puller/Pusher Idler Gear Support Shaft	Firmed	-	7/29/19	2 Ea	0 Ea	2 Ea	\$538.00/Ea	\$1,076.00
5	196852	RB6795984P			Power Turbine Holder Shaft	Firmed	-	7/29/19	2 Ea	0 Ea	2 Ea	\$721.00/Ea	\$1,442.00
6	196853	RB6872550P			Compressor Rotor Coupler Adapter Holder	Firmed	-	7/29/19	2 Ea	0 Ea	2 Ea	\$1,063.00/Ea	\$2,126.00
7	196854	RB23033037P			Holder Compressor Rotor Coupling Adapter	Firmed	-	7/29/19	1 Ea	0 Ea	1 Ea	\$1,408.85/Ea	\$1,408.85
8	196855	RB6798981P			Prop Shaft Splined Adapter	Firmed	-	7/29/19	1 Ea	0 Ea	1 Ea	\$1,207.45/Ea	\$1,207.45
9	196856	RB6795644P			Bearing Nut Wrench	Firmed	-	7/29/19	1 Ea	0 Ea	1 Ea	\$1,387.95/Ea	\$1,387.95



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER

POHB043785



Items

Line Item	Job	Part	Supplier Part No	Item No	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (USD)	Extended Price
10	196857	RB6795588P			Wrench-Holding, 32/64 Pitch 24 Tooth Spline	Firmed	-	7/29/19	2 Ea	0 Ea	2 Ea	\$910.00/Ea	\$1,820.00
11	196858	RB23005022P	RB23005022P		INR. PWR. TURB. SHFT. MANDREL	Firmed	-	7/29/19	1 Ea	0 Ea	1 Ea	\$1,645.40/Ea	\$1,645.40
12	196859	RB6795637P			Adapter	Firmed	-	7/29/19	2 Ea	0 Ea	2 Ea	\$894.00/Ea	\$1,788.00
13	196860	RB6895528P			Rear Compressor Bearing Pusher	Firmed	-	7/29/19	1 Ea	0 Ea	1 Ea	\$772.35/Ea	\$772.35
14	196861	RB6796949P			Accessory Gear Box Bearings Installation Drift	Firmed	-	7/29/19	2 Ea	0 Ea	2 Ea	\$292.00/Ea	\$584.00
15	196862	RB6796948P			Drift Install/Removal Accessories Gear Box	Firmed	-	7/29/19	2 Ea	0 Ea	2 Ea	\$310.00/Ea	\$620.00
16	196863	RB6872881P	RB6872881P		COMPR MTG INSERT WRENCH	Firmed	-	7/29/19	2 Ea	0 Ea	2 Ea	\$327.00/Ea	\$654.00
17	196864	RB6798986P			Prop Shaft Bearing Puller Plate	Firmed	-	7/29/19	1 Ea	0 Ea	1 Ea	\$720.10/Ea	\$720.10
18	196866	RB6798983P			Prop Shaft Assembly Drift	Firmed	-	7/29/19	1 Ea	0 Ea	1 Ea	\$209.00/Ea	\$209.00
19	196867	RB6796946P			Install & Removal Accessory Gear Box Bearings Drift	Firmed	-	7/29/19	2 Ea	0 Ea	2 Ea	\$353.00/Ea	\$706.00
20	196868	RB6795990P			Dummy Bearing Power Turbine Shaft Front	Firmed	-	7/29/19	1 Ea	0 Ea	1 Ea	\$304.00/Ea	\$304.00
21	196869	RB6795993P			Joining And Separating, Power	Firmed	-	7/29/19	1 Ea	0 Ea	1 Ea	\$389.50/Ea	\$389.50



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER

POHB043785



Items													
Line Item	Job	Part	Supplier Part No	Item No	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (USD)	Extended Price
22	196870	RB23034275P			Adapter Pilot Rear Compressor Bearing Puller	Firmed	-	7/29/19	1 Ea	0 Ea	1 Ea	\$340.00/Ea	\$340.00
						1 X		JUL 30 2019					
23	196871	RB6798980P			Shaft Spanner Nut Wrench	Firmed	-	7/29/19	1 Ea	0 Ea	1 Ea	\$1,479.15/Ea	\$1,479.15
						1 X		JUL 30 2019					
24	196872	RB6798845P			Turbine 2Nd Stage Spline Adapter	Firmed	-	7/29/19	1 Ea	0 Ea	1 Ea	\$1,038.35/Ea	\$1,038.35
			PS			1 X		JUL 30 2019					
25	196873	RB6872746P			Puller, Power Train Drive Gear Bearing	Firmed	-	7/29/19	2 Ea	0 Ea	2 Ea	\$1,950.00/Ea	\$3,900.00
26	196874	RB6893361P			Power Turbine Coupling Inner Race Puller	Firmed	-	7/29/19	1 Ea	0 Ea	1 Ea	\$1,071.60/Ea	\$1,071.60
27	196875	RB6872927P	RB6872927P		RED. GEAR FLANGED STUD WRENCH	Firmed	-	7/29/19	2 Ea	0 Ea	2 Ea	\$340.64/Ea	\$681.28
						2 X		JUL 30 2019					
28	196876	RB6872477P			Spanner Power Turbine Coupling Inner Nut Wrench	Firmed	-	7/29/19	1 Ea	0 Ea	1 Ea	\$579.50/Ea	\$579.50
			PS-			1 X		JUL 30 2019					
29	196877	RB6872202P			Prop Shaft Support Fixture	Firmed	-	7/29/19	1 Ea	0 Ea	1 Ea	\$503.50/Ea	\$503.50
						1 X		JUL 30 2019					
30	196878	RB6795597P			Spanner Wrench	Firmed	-	7/29/19	2 Ea	0 Ea	2 Ea	\$649.00/Ea	\$1,298.00
31	196882	RB6796941P			Seals Replacement, Accessories Gear Box	Firmed	-	7/29/19	2 Ea	0 Ea	2 Ea	\$4,053.00/Ea	\$8,106.00
			PS			2 X		JUL 30 2019					
32	196883	RB6798838P			Gas Producer Turbine Tie Bolt	Firmed	-	8/16/19	2 Ea	0 Ea	2 Ea	\$691.00/Ea	\$1,382.00
33	196884	RB6796918P			Install Turbine & Exh Colct Support Oil Bellows Seal Dft	Firmed	-	8/16/19	2 Ea	0 Ea	2 Ea	\$877.00/Ea	\$1,754.00



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER

POHB043785



Items

Line Item	Job	Part	Supplier Part No	Item No	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (USD)	Extended Price
34	196885	RB6795594P			Fixture-Assembly, Compressor Rotor	Firmed	-	8/16/19	1 Ea	0 Ea	1 Ea	\$1,519.00/Ea	\$1,519.00
								1 X JUL 30 2019					
35	196886	RB23033029P			Fixture Alignment Compressor Rotor Front	Firmed	-	8/16/19	1 Ea	0 Ea	1 Ea	\$3,962.50/Ea	\$3,962.50
36	196887	RB6895995-4P			Fixture-Alignment Compressor Rotor (2 Piece)	Firmed	-	8/16/19	1 Ea	0 Ea	1 Ea	\$347.70/Ea	\$347.70
37	196888	RB6887819P			Gas Producer & Power Turbine Supports Bearing Bore Checking Fixt	Firmed	-	8/16/19	1 Ea	0 Ea	1 Ea	\$1,711.34/Ea	\$1,711.34
38	196889	RB687162P			Sump Assembly Pressure Test Fixture	Firmed	-	8/16/19	1 Ea	0 Ea	1 Ea	\$928.62/Ea	\$928.62
39	196890	RB6798925P			Gas Producer 2Nd Stage Wheel Locknut Crimper	Firmed	-	8/16/19	2 Ea	0 Ea	2 Ea	\$1,410.00/Ea	\$2,820.00
40	196895	RB6872880P			Compressor Mounting Inserts Checking Fixture	Firmed	-	8/16/19	2 Ea	0 Ea	2 Ea	\$1,905.00/Ea	\$3,810.00
41	196892	RB6796930P			Accessory Gear Box Install Plate	Firmed	-	8/16/19	2 Ea	0 Ea	2 Ea	\$841.00/Ea	\$1,682.00
42	196893	RB23006778P	RB23006778P		GUIDE SPUR ADAPTER GEAR SHAFT	Firmed	-	8/16/19	3 Ea	0 Ea	3 Ea	\$427.00/Ea	\$1,281.00
			P.S.					3 X JUL 30 2019					
Grand Total:												\$64,199.49	



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER POHB043785



Order Notes

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Procurement Quality Clauses

A005 RIGHT OF ENTRY
A007 FIRST ARTICLE INSPECTION (FAI) BY SELLER, (DOCUMENTATION MAINTAINED BY SUPPLIER)
A012 CHEMICAL AND PHYSICAL TEST REPORTS
A016 PERSONNEL QUALIFICATION
A017 RAW MATERIAL IDENTIFICATION (AS APPLICABLE)
A026 CERTIFICATION OF MATERIAL CONFORMANCE
A041 QUALITY MANAGEMENT SYSTEM
A042 DART NOTIFICATION BY SUPPLIER
A043 RETENTION OF QUALITY DOCUMENT

A048 COUNTERFEIT PARTS AVOIDANCE, DETECTION, MITIGATION AND DISPOSITION PROGRAM

A049 SUPPLIER AWARENESS

Plex 7/30/19 3:41 PM dart.belanger.natasha



**PHGE Machineworks dba
Arrowtech Machineworks**
29751 E Enid Rd. Unit C
Eugene, Oregon 97402
Phone: (541) 780-6938
Fax: (458) 215-4938

Packing Slip

NO. 636 Page 2 of 2

Date: 7/27/2019
PO Ref: HB043785
Ship Via: Fedex Priority

Bill To:
Dart Aerospace
1270 Aberdeen St. Hawkesbury, ON
CANADA K6A 1K7

Ship To:
Dart Aerospace
1271 Aberdeen St. Hawkesbury, ON
CANADA K6A 1K8

Qty	Item
1 ✓	TURBINE 2ND STAGE SPLINE ADAPTER
1 ✓	SPANR PWR TURB. CPLG INN NUT WRENCH
2 ✓	SEALS REPL ACCESSORIES GEAR BOX
3 ✓	GUIDE SPUR ADAPTER GEAR SHAFT

Part No.
RB6798845 ✓
RB6872477 ✓
RB6796941 ✓
RB23006778 ✓

Rec'd 2X each

-200	-16
-201	-17
-202	-18
-203	-19
-12	-20
-13	
-14	
-15	

Received by: _____
Packaged by: _____
Checked by: _____

Thank You

DART SUPPLIER DEVIATION REQUEST



A. Supplier Information		B. Part Information	
Date: 7/25/19		Part Number: All components on this PO	
Name: ArrowTech Machine Works		Description: Substitution Materials	
Contact: Gabriel Escobar		Revision: n/a	
Phone #: 541-780-6938		PO Number: HB043785	
Requestor Title: Production Manager		Quantity of parts affected: Where Applies	
C. Deviation Information			
Deviation Request is:			
Product Related ☒	1st Time ☐	Permanent ☒	Duration _____
Process Related ☐	Repeat ☒	Temporary ☐	
Material Element	Requested Deviation	Reason for Deviation	
Material 4130 and 4340 / 2024 alum	4140/4142 & 6061 alum.	Material availability	

DART SUPPLIER DEVIATION REQUEST



D. Corrective Action Taken:		E. Preventive Action	
F. DART Approvals	Signature	Date	Approve / Disapprove
Purchasing	<i>M. Lee</i>		
Engineering		July 26, 2019	Approved
Manufacturing			
Quality			
Other			
G. Disposition (Completed by DART)			
Drawing Change Required?	Yes ☐	No ☒	If Yes ECN / URF Number:
Supplier Corrective Action Request Required?	Yes ☐	No ☐	If Yes SCAR Number:
It is acceptable to use 4140/4142 in place of 4130/4340. It is acceptable to use 6061 in place of 2024. For the components listed on POHB043785.			

DART SUPPLIER DEVIATION REQUEST



A. Supplier Information		B. Part Information	
Date: 7/25/19		Part Number: See Comment Section	
Name: ArrowTech Machine Works		Description: Precision fit function	
Contact: Gabriel Escobar		Revision: n/a	
Phone #: 541-780-6938		PO Number: HB043785	
Requestor Title: Production Manager		Quantity of parts affected: where applies	
C. Deviation Information			
Deviation Request is:			
Product Related ☒	1st Time ☐	Permenant ☒	Duration _____
Process Related ☐	Repeat ☒	Temporary ☐	
Current Requirement	Requested Deviation	Reason for Deviation	
Zinc Plating ASTM B633 Type I SC2	Request Black Oxide as per QMSI-6.2.2 B.O. Rev-D	Limit tolerancing on components tighter than spec. on plating.	

DART SUPPLIER DEVIATION REQUEST



B. Corrective Action Taken		E. Preventive Action	
F. DART Approvals	Signature	Date	Approve / Disapprove
Purchasing			
Engineering	<i>M. Lee</i>	July 26, 2019	Approve
Manufacturing			
Quality			
Other			
G. Description (Completed by DART)			
Drawing Change Required?	Yes ☐	No ☒	If Yes ECN / URF Number:
Supplier Corrective Action Request Required?	Yes ☐	No ☐	If Yes SCAR Number:
No change to fit, form or function			



ARROW TECH MACHINE WORKS

Certificate of Conformance

Your Purchase Order No: HB043785 ✓

Dated: 7/27/2019

Our Order / Job No: AWT-HB043785 A31

Order Qty: 2 ✓

Part Name: SEALS REPLACEMENT, ACCESSORIES GEAR BOX

Part Number RB6796941 ✓

Lot Size: N/A

Ship Date: 7/27/2019

We certify that these parts shipped to you are of domestic or international manufacture and conform to all requirements of the Purchase Order. These parts have been manufactured and inspected in accordance with all required specifications, instructions and drawings. Any applicable specifications are listed below:

Drawing Number: RB6796941 ✓

Rev: 11

Material Size and Type: -13, -14, -15, -16, -17, -18, -19, -20, -201(3), -202(5), -203(9), -203(11) / STRESS PROOF; -2, -12, -200(2), -201(4), -202(6), 203(8) / 4142 STEEL ?

Material Specifications: STEEL: ASTM A108, A29, A311

Heat Treatment: 37.0 – 37.0 HRC

Plating/Finish: BLACK OXIDE: QMSI-6.2.2 B.O. REV D

Mercury Contamination: The material used to process this order has not come in contact with mercury or mercury bearing instruments.

Date: 7/25/19

Signed: *Harriet M. Felt*

PHGE Machine Works LLC dba Arrow Tech Machine Works
29751 E. Enid Rd. Unit C Eugene, Oregon 97402
Main: (541) 780-6938 | Fax: (458) 215-4938
www.atechmachineworks.com

ENGINEERING CHANGE NOTICE
DART AEROSPACE LTD

Date:	18.06.19	Job No.:	RB18-Rolls Royce	ADR Yes/No:	N	ADR Date:	N/A	ECN #:	18- 753
Product No.:	RB6798941-17/-18			Created By:	ML	Approved By:	<i>[Signature]</i>		
Product Name:	Punch			Checked By:	<i>[Signature]</i>				

Distribution	Reqd	Resp	Initial / Date (YY/MM/DD)	Distribution	Reqd	Resp	Initial / Date (YY/MM/DD)
Director of Operations	Y	JLM	<i>[Signature]</i> 18.06.19	DQA / QA Coord.	Y	MD / ED	<i>[Signature]</i> 18.06.19
Production Planning Man. / Prod. Planner	Y	LL / DL	<i>[Signature]</i> 18.06.19	QC Coordinator	Y	PD	<i>[Signature]</i> 18.06.19
Supply Chain Director / Senior Buyer R&D	Y	RA / SH	<i>[Signature]</i> 18.06.19	Customer Support	Y	LM / JR	<i>[Signature]</i> 18.06.20
Production Engineering Coord.	Y	DD / JFS	<i>[Signature]</i> 18.06.19	Customer Technical Support	Y	MB / EL	<i>[Signature]</i> 18.06.19
NCR / PAR / CAR / CIR / URF Coordinator	Y	SAB	<i>[Signature]</i> 18.06.19	Marketing	Y	WR / RB	<i>[Signature]</i> 18.06.19
				Prod. Man. Solution Provider	Y	SL / RB	<i>[Signature]</i> 18.06.19

Reason for Change:
New Issue

Documents Affected:
Release RB6798941-17/-18 Rev. H

IF APPLICABLE: NCR: _____ PAR: _____ CAR: _____ CIR: _____ URF: _____

PAPERWORK UPDATE ☐ PARTS MUST COMPLY ☒ PREVIOUS PARTS SATISFACTORY ☐

#	Quality Assurance Actions	Reqd	Resp	Notes	Complete
1	Notify Previous Customers	N			
2	Notify Eurocopter France	N			
3	Notify Augusta Westland	N			
4	Manufacturing Licensing Agreement Update	N			

#	Engineering Actions	Reqd	Resp	Notes	Complete
5	Required Documents/Drawings/Item ID's Under Review (URF)	N			
6	Update Master Document List (MDL)	N			
7	Update Document Record (DR)	N			
8	Update Product Compatibility Matrix	N			
9	Notify TC / FAA of Change (eg. ICA, 8110-3)	N			
10					

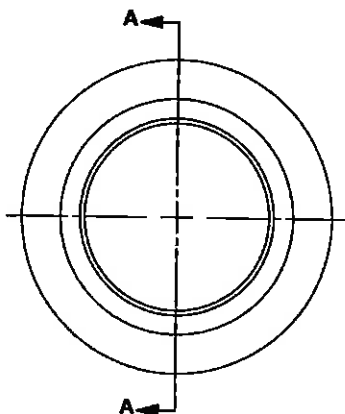
#	Document Control Actions	Reqd	Resp	Notes	Complete
11	Move / Update Electronic Files / Design Journal	Y	MG		18.06.19 <i>[Signature]</i>
12	Update Product Specification Files (Bluefiles)	N			
13	Update Approved/Preliminary Dwg PDF Files	Y	MG		18.06.19 <i>[Signature]</i>
14	Update Product Development Summary (STC applications)	N			
15	Update QSI 021 (TC/FAA STC) and/or STC Approval List	N			
16	Create/Update Parts / STC Database	Y	MG		18.06.19 <i>[Signature]</i>
17	Update / Verify Authorized Release Certificate Database	Y	MG		18.06.19 <i>[Signature]</i>
18	Create / Update Change Record Form / Item Card Database	N			
19	Create / Update Packaging Process Plan (PPP)	N			
20	Red Decals required on Packaging Process Plan (PPP)?	N			
21	Update Controlled Supplier Documents (Qpulse) Database	N			
22	Update Grey Project Binder / Electronic Project Folder	N			
23	Update D-Part / M-Drawing / DSI / DEO Master Binders	N			
24	Update "Royalty Paid to" attribute (Parts sold under Dart USA STC's)	N			
25					

Description / Action:

Please release drawing
Rev. G tools can be reworked
*Customer Passport Helico must be shipped tools at Rev. H.

ECN Verified & Complete: *[Signature]*

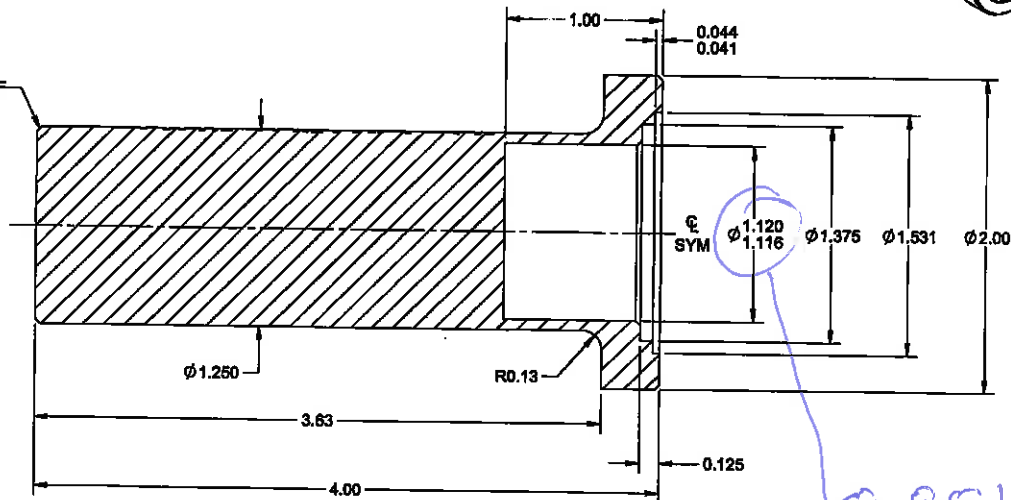
Date: JUNE 21/18



RB6796941-18 PUNCH

8

0.03 X 45° CMF
3 PL



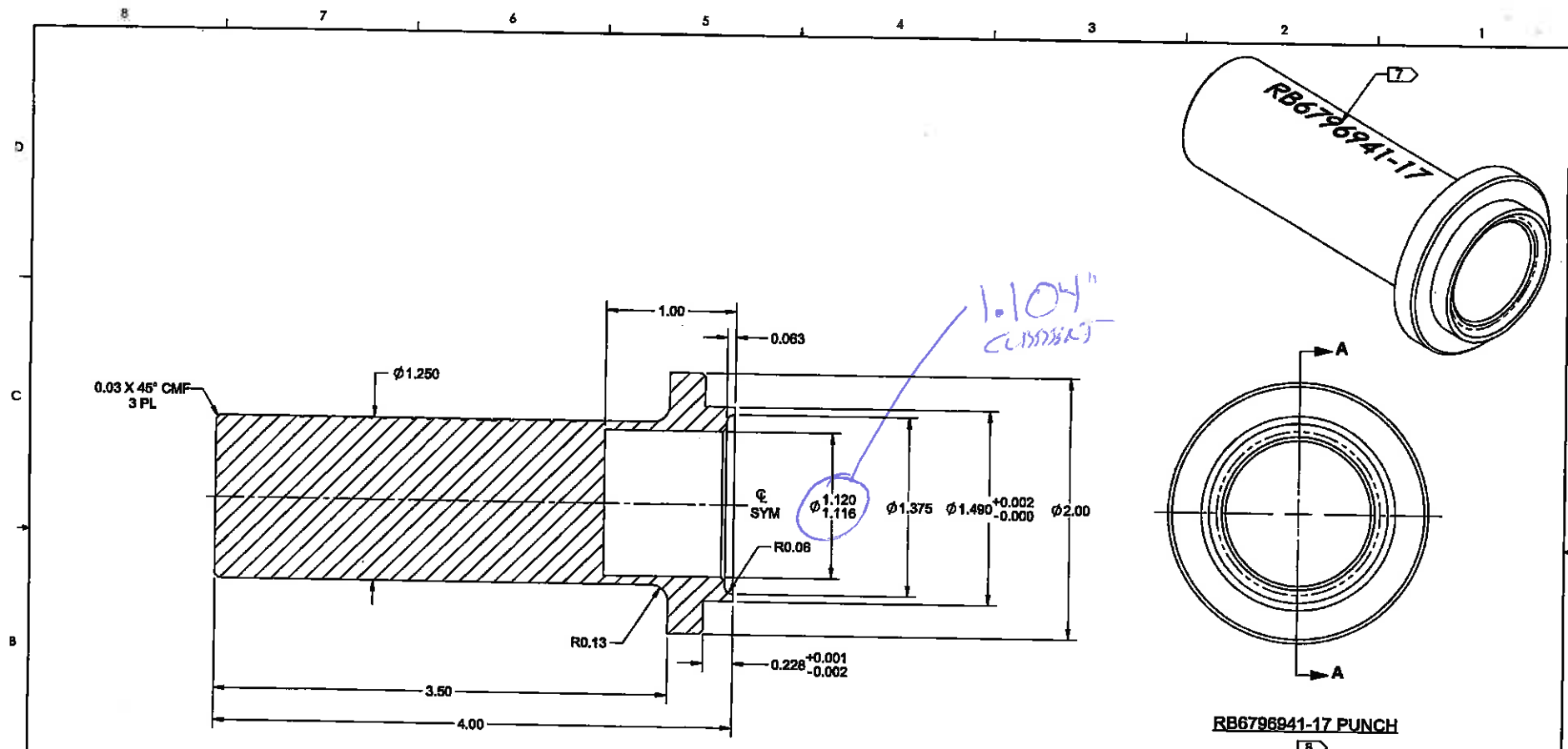
SECTION A-A

0.881"
CURRENT

NOTES:

- 1) MATERIAL: 1144 STRESSPROOF
- 2) HEAT TREAT: N/A
- 3) FINISH: ZINC PLATE (YELLOW OR BLACK) PER ASTM B633 TYPE 2 CLASS 2
- 4) TOLERANCES: XX = $\pm 0.1^\circ$ / $\pm 1^\circ$
 XXX = $\pm 0.01^\circ$ / $\pm 0.5^\circ$
 XXXX = $\pm 0.005^\circ$ / $\pm 0.1^\circ$
 XXXXX = $\pm 0.0005^\circ$ / $\pm 0.05^\circ$
 PARALLELISM, ECCENTRICITY AND SYMMETRY ABOUT ALL CENTER LINES = $\pm 0.005^\circ$
- 5) UNITS: INCHES UNLESS OTHERWISE NOTED
- 6) BREAK SHARP EDGES: 0.005" TO 0.010"
- 7) IDENTIFICATION: MACHINE ENGRAVE PER CAD MODEL AS SHOWN OR DOT MARK T/M AS SHOWN
- 8) THE TOOL ASSY MUST BE PACKAGED WITH A DESICCANT BAG INTO A TIGHT FITTING SEALED PLASTIC BAG

H	TEMPLATE UPDATED PER DART'S STANDARDS, FINISH BLACK OXIDE CHANGED FOR ZINC PLATED TYPE II, DIMENSION 0.883 +/- .001 CHANGED FOR 1.116/1.120, REFER TO PREVIOUS REV FOR DETAILS			18-763	VM
REV.	DESCRIPTION			ECN #	BY
DESIGN	VM	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA			
DRAWN	VM				
CHECKED	MP	TOOL PART #	REV. H		
MFG. APPR.	DP	RB6796941-18	SHEET 1 OF 1		
APPROVED	MP	TITLE	SCALE		
DATE 6/19/2018		PUNCH	NTS		
COPYRIGHT © 2008 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE UNDERSTANDING THAT IT IS NOT TO BE USED FOR ANY PURPOSES OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT THE WRITTEN PERMISSION OF DART AEROSPACE LTD.					



SECTION A-A

NOTES:

- 1) MATERIAL: 1144 STRESSPROOF
- 2) HEAT TREAT: N/A
- 3) FINISH: ZINC PLATE (YELLOW OR BLACK) PER ASTM B633 TYPE 2 CLASS 2
- 4) TOLERANCES: X.X = ± 0.1 " / ± 1 "
X.XX = ± 0.01 " / ± 0.5 "
X.XXX = ± 0.005 " / ± 0.1 "
X.XXXX = ± 0.0005 " / ± 0.05 "
PARALLELISM, ECCENTRICITY AND SYMMETRY ABOUT ALL CENTER LINES = ± 0.005 "
- 5) UNITS: INCHES UNLESS OTHERWISE NOTED
- 6) BREAK SHARP EDGES: 0.005" TO 0.010"
- 7) IDENTIFICATION: MACHINE ENGRAVE PER CAD MODEL AS SHOWN OR DOT MARK T/N AS SHOWN
- 8) THE TOOL ASSY MUST BE PACKAGED WITH A DESICCANT BAG INTO A TIGHT FITTING SEALED PLASTIC BAG

H	TEMPLATE UPDATED PER DART'S STANDARDS, FINISH BLACK OXIDE CHANGED FOR ZINC PLATE TYPE II, DIMENSION 1.104 CHANGED FOR 1.116/1.120, REFER TO PREVIOUS REV FOR DETAILS		18-763	VM
REV.	DESCRIPTION		ECN #	BY
DESIGN	VM	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA		
DRAWN	VM			
CHECKED	ML	TOOL PART #	REV. H	
MFG. APPR.	DP	RB6796941-17	SHEET 1 OF 1	
APPROVED	ML	TITLE	SCALE	NTS
DATE 6/19/2018		PUNCH		
COPYRIGHT © 2000 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR OFFERED OR DISCLOSED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.				

Entered: 2K Date: Oct 31/19



NCR No. 19-7681 **WORK ORDER NON-CONFORMANCE / ROUTE UPDATE**

Route update only ☐

Job: <u>196882</u>	DISPOSITION Rework ☒ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS			
Part No. <u>RR6796941</u>		Skid-tube ☐ Machining ☐ Large Fab ☐	Cross tube ☐ Small Fab ☐ Finishing ☐	Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐	Engineering ☐ Water Jet ☐ Supplier ☒ Quality ☐

Date: <u>19/08/19</u>	Sequence #:	QTY Affected: <u>1 EA 2</u>	MRB (QSI042)
-----------------------	-------------	-----------------------------	--------------

Description Work Order Deviation	Disposition	Completed By
-17: 1.120 is 1.104 -18 1.120 is 0.881-0.883	REWORK -17/-18 TO KEL.H	<u>19/10/19</u>
		Lead hand / Supervisor
		<u>only</u> <u>19/10/12</u>
		QC / QA Coordinator
		<u>68</u> <u>9-89</u>
		AUG 21 2019

Root Cause	FAULT CATEGORY			
Operator ☒	☐ Pressure/Forced	☐ Contamination	☐ Power Loss/Surge	☐ Positioned Wrong
Manufacturing Process ☒	☐ Bending	☐ Misaligned/off center	☐ Folio/Program	☐ Outside Tolerance
Equip/Tooling ☐	☐ Crushing	☐ BOM/Route	☐ Grain Direction	☒ Drawing
Handling/Preservation ☐	☐ Cracks	☐ Broken/Damage/Defect	☐ Weld	☐ Finish
Material ☐	☐ Crimp/Kink/Ripple/Wave/Twist	☐ Incomplete/Unclear Instructions	☐ Wrong Stock Pulled	☐ Part Lost/Missing
Product Improvement ☐	☐ Marks/Chatter	☐ Drill Holes	☐ Out of Sequence	☐ Misread
Process Improvement ☐	☐ Mislabeled	☒ Fit/Function	☐ Off-set/Set-up	
Human Factors ☐	Other/Details:			